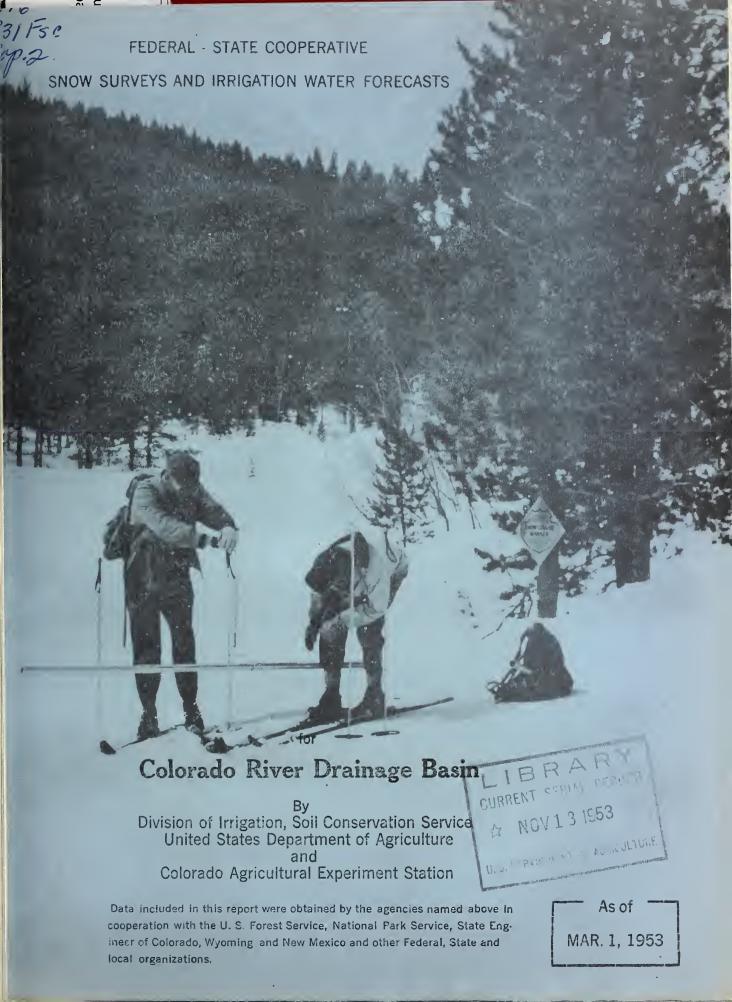
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UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued monthly January through May in the publication WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES.

Weather Bureau forecasts of runoff presented in this bulletin are computed from procedures based on mathematical analysis of the relation between precipitation and runoff.

The Weather Bureau bulletins may be secured by writing to:

Hydrologist in Charge River Forecast Center U. S. Weather Bureau 712 Federal Office Building Kansas City 6, Missouri

FEDERAL-STATE COOFERATIVE

SNOW SURVEYS AND IRRIGATION

WATER SUPPLY FORECASTS

FOR

COLORADO RIVER BASIN

March 1, 1953

Report Prepared

bу

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and

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General Series Paper No. 537 Colorado Agricultural Experiment Station to the posture and the store of the second o

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WATER SUPPLY OUTLOOK COLORADO RIVER DRAINAGE MARCH 1, 1953

Snow accumulation on the headwaters of the Colorado River in Colorado, Wyoming and New Mexico is less than normal to March 1. The average is about 84 percent of normal for the upper basin. Snow melt season runoff is expected to be somewhat less than indicated by present snow measurements because of deficiency in precipitation during the late summer and fall months. Mountain soils under the snow are extremely dry. Soil moisture conditions in valley areas are reported as fair to good.

Snow cover on principal watersheds of the Arizona tributaries is much below average and a year ago. Storage on the Salt and Verde drainage is much improved over the past several years, the highest since 1942. January temperatures have been at record highs and precipitation is below normal. San Carlos Reservoir on the Gila River is near empty.

COLORADO RIVER AND TRIBUTARIES IN COLORADO

Colorado River (Above Grand Junction): The snow cover on the Upper Colorado River including the Roaring Fork is 92 percent of normal and about 60 percent of March 1, 1952. Similar snow conditions exist on other upper Colorado River tributaries including the Grand Mesa. At medium elevations the snow cover is somewhat less than above 9000 feet and there is practically no snow in the foothills. The lack of snow at lower elevations is partially due to above seasonal temperatures which has caused mid-winter melting. Surface soil moisture is reported as good but the soil generally is on the dry side. Stream flow is about average. Storage in Green Mountain reservoir is now 99,000 acre-feet as compared to 94,000 a year ago on this date.

Gunnison River: Snow accumulation to date on the watershed of the Gunnison River is somewhat less than for the Upper Colorado, at 75 percent of normal. Summer stream flow will probably not exceed that indicated by present snow measurements. Even if the rate of snow accumulation is normal or above for the remainder of the season runoff will be materially reduced by dry mountain soils. Soil moisture conditions are reported as fair to good in the Gunnison and Montrose districts, probably due to snow-melt at valley elevations. Stream flow is slightly above normal, Storage in Taylor Park reservoir is now 64,000 acre-feet as compared to 55,000 on March 1, 1952.

Yampa and White Rivers: Snow on the headwaters of the Green River tributaries in Colorado is about 90 percent of normal on March 1. Summer runoff will be adversely affected by the lack of precipitation during the fall months. Soil moisture conditions in northweatern Colorado are reported as fair. Stream flow is about average.

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Dolores River: Snow cover on the Dolores River watershed declined during February in respect to normal due to warm temperatures and lack of snow-fall, Snow water content is now 75 percent of normal. Soil moisture conditions in the Cortez irrigated area are reported as fair as of March 1.

Green River in Wyoming: Precipitation at valley elevations has been deficient for several months but current snow water content is slightly above normal. Soil moisture conditions in both mountain and valley districts are described as poor. Stream flow is about average.

COLORADO RIVER TRIBUTARIES IN ARIZONA

February temperatures were for the most part about 5 degrees above normal for the State. Precipitation for the month was well below normal. However, a storm that blanketed the State began on the last day of the month and continued through the first two days of March. The yield of this storm was varied, from practically zero up to over 3 inches of water on the watersheds of the State. The Gila, Verde and Salt seem to have benefited the most. Most of the snow courses on the Salt were measured before the storm, but a majority of the others were measured after most of the storm had passed. Snow-stored water on the principal watersheds of the State indicate that runoff from the major rivers will vary from 15 to 66 percent of normal. Good holdover reservoir storage from last season is the brightest spot in the present water supply outlook. The San Carlos reservoir, however, is very low.

The Weather Bureau forecast for March is for normal temperatures and above normal precipitation for the area. The above storm, however, has already laid down the normal precipitation for March. The Weather Bureau also anticipates that by March 8 temperatures will be such that snow will be generally melting up to 7,000 feet elevation.

Salt River: Most of this watershed was measured before the recent storm. Measured snow depths were a trace in the lower elevations to about three feet in the Mt. Baldy area. Water content varies from zero to almost seven inches. Soil moisture conditions are again excellent. Runoff forecast for the flow of the Salt River above Roosevelt for the period March through May is 190,000 acre feet, about 66 percent of normal for this period.

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Verde River: Most of this watershed was measured during the tail end of the recent storm. Snow depths vary from five inches in Munds Park to over 13 inches on Mormon Mountain. Water content varied from one inch to about three inches. Rain generally preceded the snow on this watershed and soil moisture conditions are again good to very good.

Runoff forecast for the Verde River above Horseshoe Dam for the period March through May is 50,000 acre feet, about 27 percent of normal for this period.

Gila River: Snow conditions on the Gila River watershed improved as did soil moisture conditions. The upper Gila watershed averages a foot of snow and 1.7 inches of snow-stored water. The lower watershed had a good rain, and soil moisture conditions on the watershed average fair.

Runoff forecast for the Gila River above Safford for the period March through May is 30,000 acre-feet.

Williams River: This watershed benefited from the recent storm, but there is not enough snow to warrant a runoff forecast.

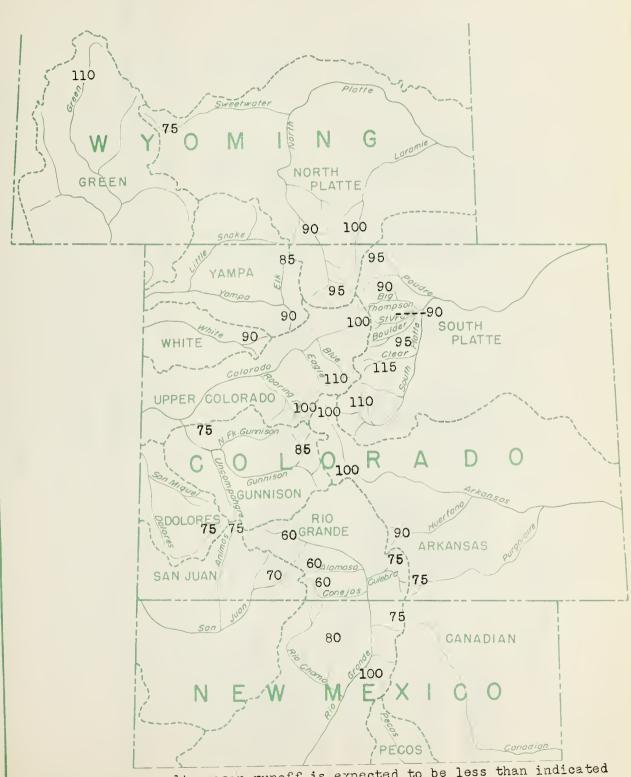
Reservoir storage in the Salt-Verde Project at the present time is the best it has been in 11 years. The net-stored water is 1,405,000 acre feet, about 68 percent capacity. Iake Pleasant has 82,000 acre feet, about 46 percent of capacity. San Carlos has about 8,000 acre feet, 0.6 percent of capacity. The Colorado River system has about 20,500,000 acre feet, 67 percent of capacity.

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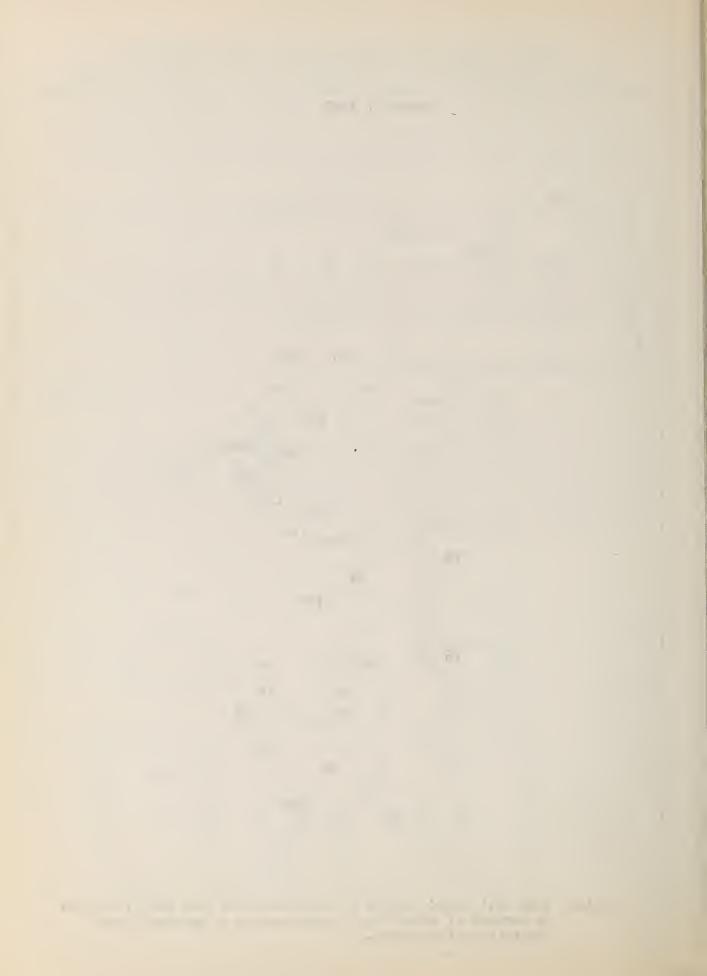
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PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS
BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH
March 1, 1953



Note: Snow melt season runoff is expected to be less than indicated by percent of normal snow cover because of extremely dry mountain soil moisture.



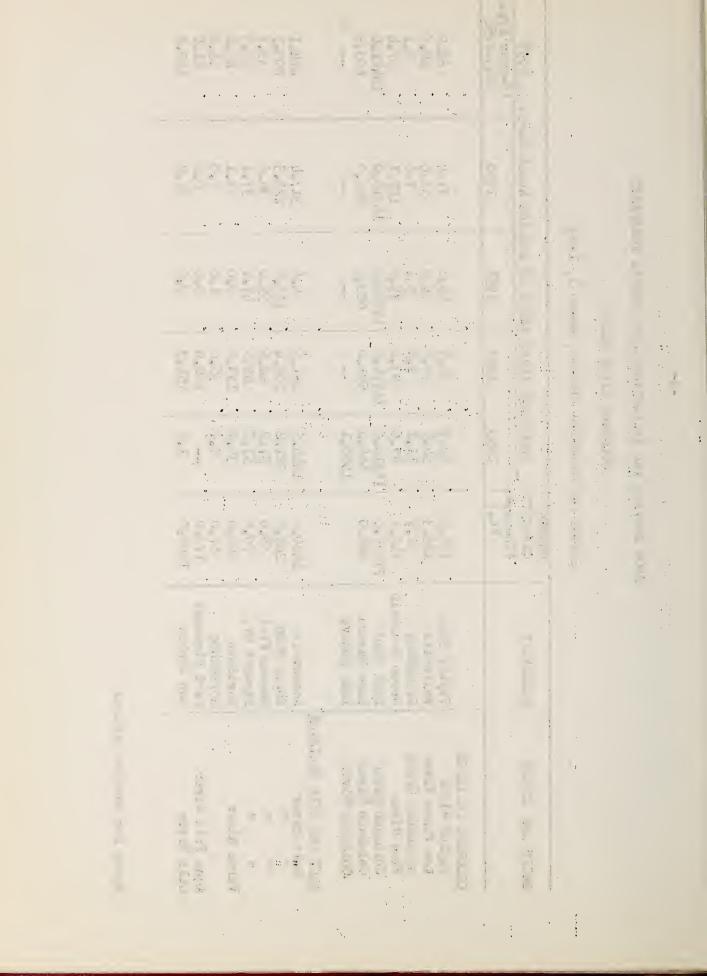
SNOW SURVEYS AND IRRIGATION WATER SUPPLY FORECASTS

COLORADO RIVER BASIN

STATUS OF RESERVOIR STORAGE, March 1, 1953

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY	THOUSA	NDS ACRES	FEETS IN STOR	THOUSANDS ACRES FEETS IN STORAGE About March 1, 1953	th 1, 1953
		(Thous A Ft.)	1953	1952	1951	1950	10-year Avg.* 1943-1952
COLORADO 13 ATNA GE							
Taylor River	Taylor Park	106,2	63.9	54.9	149.8	71.04	68.8
Los Pinos River	Vallecito	126.3	54.5	26.8	25,0	51°6	10.5
Groundhog Creek	Groundhog	21.7	11,2	W N	ر ا	3° 2	را 8
Blue River	Green Mountain	146.9	99.5	93.8	75.9	109°1	4° 29
Colorado River	Lake Mead	27935.0	18318,0	1657400	17255.0	18316.0	18481,6
Colorado River	Lake Havasu	0,889	7°909	591.0	620°8	645°0	
Colorado River	Lake Mohave		1588.1	ì	1	!	**
The state of the s							
SALT AND GILA DRAINAGE		() ()	\ - - - -	\	_		
Salt River	Roosevel t	142000	1014.5	491.05	0•17	31/04	T-414
=	Horse Mesa	245.0	221,2	202 • 14	163.9	223.3	20035
# #	Mormon Flat	5800	57.2	10.5	55.0	34.6	35.7
# #	Stewart Mt.	70.0	57.05	7,91	6.74	37.1	28,3
Verde River	Bartlett	20000	38.0	153.5	0°6	53.1	1,5 8
	Horseshoe	0°29	8°0	55.0	7.0	0°6	16.2*
Acua Fria River	Carl Pleasant	173.0	ŧ	120,0	000	6 *2	11.8
Gila River	San Carlos	120000	J*6	154.3	000	92.9	140.8

*Some for shorter periods



-4-SNOW SURVEYS AND IRRIGATION WATER FORECASTS for COLORADO RIVER BASIN

AND COMPARISON OF DATA WITH THAT OF FREVICUS YEARS BY WATERSHEDS	Snow 1953 Water Content in	Density percent of	1953 1952 16 yr. Avg.*			61	59	-	32 107 111	63	99	٠. د کې	21		39					13	21 24 41
DATA WITH T	No of	Courses	ņi	Average		20	~	2	33	7	2	디	7	Ŋ	.2	6	2	_	9	Μ.	\
PARISON OF 1		ontent in Inches	16 yr.	Average		11.0	14,0	18,0	11,9	17.9	13.8	13.4	9°6	14,9	٦ ©	Te7	3.4	_گ و	3,27	0°6	5,2
AND COM		ntent i		1951		13,4	16,3	13,9	17.5	19°6	14.8	11,9	7.04	10.6	6.9	0.7	2,2	3,1	2,0	1,1	2,37
		Snow Water Co		1952		16.8	25°5	27,0	12,3	25,1	18,7	20°2	17,31	26,1	16,5	1,3	9°7	7,47	7*1	000	8,7
S MOM S		Snow W		1953		10,01	13,0	14,3	13,2	15.9	12,3	10.1	7,2	10,3	6,5	2,0	2,1	104	1,91	700	2,1
MARCH 1	Snow	Depth	1953	Inches		36.6	42,8	47.3	11°2	149,8	15.0	36,1	27.5	34.6	29,3	13.5	12,2	7.07	9°2	3,0	6.6
SUMMARY OF MARCH 1 SNOW SURVEYS		WATERSHEDS			COLORADO RIVER	Colorado River**	Roaring Fork	Plateau Creek	Green River	Yampa River	White River	Gunnison River	Dolores River	San Juan River	Animas River	Gila River	Salt River	Verde River	Little Colo, River	Williams River	Lower Colos River

**Above Glenwood Springs, *Some for shorter periods,

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differential distribution of the state of th		Precipitation*	Departure	Precipitation*	Departure
WATERSHED	STATE	October 1 to	from		from
		February 28	Normal	February	Normal
Colorado	Colorado	Lall		89.0	-1°00
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Green	Sutmow	ToT			1 .
San Juan	New Mexico	90°°		0,25	09.0-
Colorado	Arizona	4.19	-2-19	7770	1,00
257777				0.70	- - - -
ET Lo	Arizona	#C0#7			
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COLORADO RIVER DRAINAGE SNOW SURVEYS

March 1, 1953 Snow Cover Measurements Drainage Basin Noa Date Snow Water Content Past Record and and Elev. of Depth Yrs. Av.Water 1953 1952 1951 State Survey Rec. Content Snow Course In. In. Inc Inc COLORADO RIVER COLORADO RIVER (Above Glenwood Springs) 10300 2/24 15.9 23,6 Cameron Pass* 1 Colo. 51.0 16.4 16 16.4 6,3 Park View* 7 9200 2/24 27.1 6.5 14,2 17 7.9 12.7 12 " 9300 2/25 32.8 14.8 Phantom Valley 9.3 17 9.0 Hoosier Pass 7/1 11 11400 2/27 35.4 10.8 15.5 14.1 16 9,0 16 11 15.5 Berthoud Pass 9700 2/27 17.2 17 32.1 12.3 12.5 19 11 10200 2/28 Tennessee Pass 33.3 7.6 13.1 11.6 17 7.7 37 11 28.0 65 M. Fork Camp. Gr. 9000 3/1 12,8 10.9 17 8,3 -11 Fiddler Gulch عليا 20.8 19.8 11000 17 12.9 100 59 11 2/28 3.5 1.0200 43.0 11,2 1.8,2 17.5 Lulu 14,0 11 20.4 Willow Creek P. 62 15 9500 2/24 33.8 9.2 10.3 10.4 1.2.8 64 " 9.4 15 N.Inlet Grand L. 9000 7.8 C0 E0 **--** (2) 11 Lake Irene 65 10600 2/28 56.4 18.4 26.5 25.3 15 17.8 69 -11 9900 2/27 9500 3/5 29.4 Arrow 12,0 10.2 15 7.7 8.1 -11 9.3 Lapland 70 9500 15.9 14.0 13 9.9 79 11 47.5 Fremont Pass #2 11400 2/23 12.2 19.6 19.8 17 13.0 91 11 12.7 Lynx Pass 9100 2/25 35.6 8.7 9.0 17 10.6 Shrine Pass 96 11 10500 2/23 48.5 13.4 19.6 18.7 13.9 11 55.9 97 " 11250 2/28 15,9 25.9 Grizzly Peak 21,9 11. 15.2 102 " 8850 3/1 12.6 6 Glen-Mar Ranch 25.5 5.2 8.1 8.2 8.4 17.7 105 " Monarch Lake 8500 2/28 31.3 12.5 5 13.1 Granby 113 " 8700 2/24 22.8 5.6 10.1 5.0 6.8 127 " Grand Lake 8600 3/1. 8,8 29.0 6,3 13.0 9.3 2 Berthoud Summit 138 " 11300 2/26 49.5 15.1 21.3 14.8 ---Frazer View 139 " 10600 2/26 35.3 14.4 2 10.1 13.1 143 " 2 Gore Pass 8900 2/25 8.9 7.9 32.7 11.2 Frisco 146 2/23 28.7 7.0 10.2 2 11.4 9300 Snake River 147 " 2/28 29.5 11.4 13.9 2 9700 7.7 Summit Ranch 158 " 10000 2/28 22.2 5.1 14.6 11.3 Average for drainage 36.6 10.0 16.8 13.4 11.0 ROARING FORK 18.5 10700 3/2 43.4 13.9 Ind. Pass Tunnel 33 Colo. 13.0 17.1 17 34 11 9200 3/4 North Lost Trail 21,1 14.4 17 11.6 38.0 10.7 Nast. 45 8700 13.2 8.4 17 6.1 15.3 11 47.0 10400 2/27 Ivanhoe 100 27.0 17.5 6 16.5 Ruby 144 11500 3/2 41.4 11.8 16.5 1.3.8 2 Average for drainage 22.2 13.0 16.3 14.0 GREEN RIVER 44 Wyo. East Rim Divide 7950 12,0 9 9.5 6.4 Dutch Joe 23 11 670012/23 27.2 9.4 ---Mulligan Park 2山 11 8900 3/1 33.8 9.8 9.2 15.7 11 10.0 Kendall R.S. 25 11 7900 2/24 40.9 12.8 10.3 14.8 11 10.4 Ħ 15.2 Loomis Park 26 8500 3/1 49.0 16,9 17.5 22.0 11 41.2 Average for drainage 13.2 12.3 17.5

^{*}On adjacent drainage

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COLORADO RIVER SNOW SURVEYS

March 1, 1953

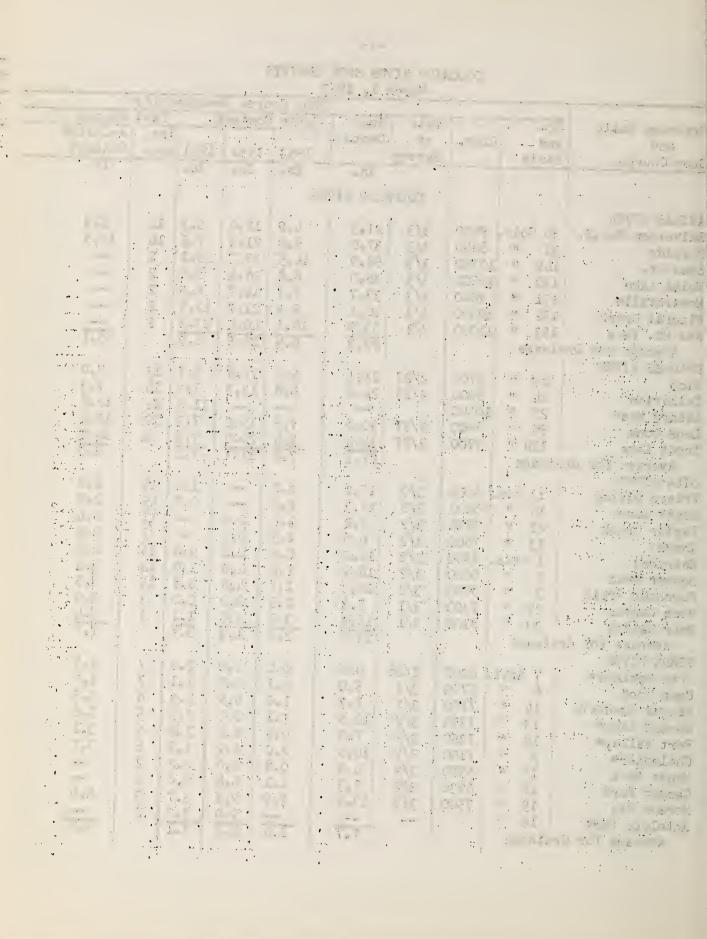
	- Application of the Control of the		Marc	h 1, 19		-			
Drainage Basin		-	-			Measu:			
and	Noo		Date	Snow	Water	quaten	<u>t </u>		Record
Snow Course	and	Elev.	of	Depth		1		Yrs.	Av. Water
	State		Survey	And in case of the last of the	1953	1952		Record	Content
				In.	In.	In.	In.		In.
		CC	DLORADO	RIVIR					
YAMPA RIVER									
Dry Lake	6 Colo		2/28	46.3	15.5	24.2	17.7	14	16.2
Columbine Lodge*	10	9300	2/25	59.1	19,2	27.7	25.8	17	18,8
Elk River	9 11	8700				18.8	15.3	14	14.1
Lynx Pass*	91 "		2/25	35.6	6.7	12.7	9.0	17	10.6
Routt Line	140 "		2/25	82.9	29.6	39.1	35.8	2	
Rabbit Ears	141 "	9550		64.5	22.4	28.9	25.4	2	
Yampa View	142 "		2/25	43.0	13,5	18.8	14.4		
Old Battle*	9 Wyo.	9800	2/27	58.1	20.2	55.6	25.7	16	25.0
	ge for drai	nage		49.8	15.9	25.1	19.6		17.9
WHITE RIVER			,	1.4					
Burro Mountain	35 Colo.	9000	3/3	46.0	12.5	20.5	13.5	17	14.7
Rio Blanco	36 "	8500	3/4	44.0	12.0	16,9	16.1	14	12.8
	ge for drain	nage		45.0	12.3	18.7	14.8		13.8
PLATEAU CREEK									
Mesa Lakes	56 Colo.	10000		37.5	11.1	20,8	10,4	1	13.6
Trickle Divide	85 "	10000	3/3	57.0	17.4	33.1	1704	, -	22.4
	ge for drai:	nage		47.3	14.3	27.0	13.9		18.0
GUNNISON RIVER									_
Crested Butte	18 Colo.	9000	3/1	37.6	9.1	22.3	16.0		12.5
Park Cone	46 "	9700		24.3	7.2	19.3	10.5	16	8.6
Alexander Lake	53 "	10000		55.0	15.4	26.3	13.4		18.1
Snowshoe Mesa	55 "		2/28	15.1	4.0	12.3	7.8	,	8.2
Ironton Park	58 "		2/28	34.7	10,0	18,0	9.3		11,1
Trickle Divide	86 "	10000		57.0	17.4	33.1	17.4	13	22.4
Park Reservoir	87 "	9500		55.0	16.7	32.0	16.1	13	21.0
Porphyry Creek	89 "	10800		43.7	12.1	21.0	15.7	12	13.4
Lake City	104"	10300		21.4	5.8	10,0	5,8	5	7.4
Spring Cr. Pass*	123 "	10900		23.6	407	13.8	M29 (821)	2	
Cochetopa Pass*	126 "	10000		16.4	3.5	5.5	404		4.9
McClure Pass	132 "	9500		37.0	10.3	22.6	14.1	4	20.1
Red Mt. Pass	153 "	11000	3/3	63.9	18.6	40.0	23.9	2	
	ge for Drai	nage		36.1	10.1	20.2	11.9		13.4
SAN JUAN RIVER							_		
Wolf Creek Pass*	26 Colo.	10000		50.9	15.3	46.3	18.3		24.8
Upper San Juan	29 "	10000	2/28	58.9	19.0	47.4	20.2	15	27.0
Granite Peaks	93 "	7950		17.5	4.9	9,3	3.9	12	8.4
Wolf Creek Summit	155 "	11000		48.2	13.9	42.2	15.2	2	
Chama Divide*	17 N.M.	7750		16.3	4.6	7.4	3.0	13	5.2
Chamita*	18 "_		2/28	29.4	7.5	20.2	7.5		10.0
	ige for Drai:	nage		34.6	10.3	26.1	10.6		14.9
*On adjacent drain	age			1		1	1	1	

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COLORADO RIVER SNOW SURVEYS March 1, 1953

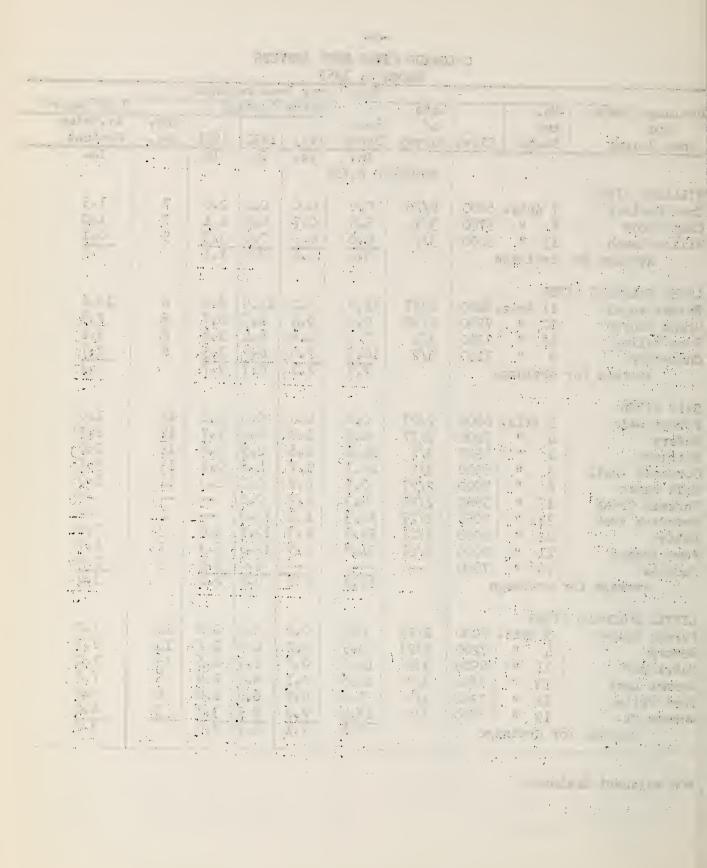
Snow Course Measurements No. Drainage Basin Date Past Record Snow Water Content and and Elev. of Depth Yrs. Av.Water 1953 1952 1951 Rec. Snow Course State Content Survey In. In. In. In. Ino COLORADO RIVER ANIMAS RIVER Silverton Sub.S. 30 Cold. **9**万00 3/3 21.5 4.9 12.0 6.3 14 5.3 11 8850 0.8 7.5 14 31 3/3 37.0 21.3 10.9 Cascade 3/3 Spud Mt. 149 Ħ 10700 58.9 14.5 37.7 16.1 2 Molas Lake 150 11 10500 3/3 36.0 8.8 28.6 8.8 2 151 6.6 2 Howardville Ħ 9800 3/3 33.7 7.5 14.7 2 152 12.5 Mineral Creek 10300 万0°5 9.3 21.7 3/3 18.6 Red Mt. Pass 153 ** 11000 3/3 63.9 70°0 23.9 2 29.3 6.5 6.9 3.1 16.5 Average for Drainage DOLORES RIVER 11 8700 2/27 5.2 17.3 5.7 21.1 7.0 Rico 23 13 Telluride 2Ц Ħ 8600 2/28 24.6 6.8 12.3 7.5 177 7.3 25 11 11.8 12 12.8 Lizard Head 10300 Ħ 19.2 2/27 7.5 Lone Cone 90 8900 30.0 7.3 12 10.2 Trout Lake 114 " 9700 2/27 9.4 20.0 9.0 4 14,0 34.4 17.1 27.5 7.2 7.4 9.6 Average for drainage GILA RIVER 15 Frisco Divide 11 N.M. 8000 3/2 17.2 2 . 2 1.0 2.2 88000 18.3 15 2.5 State Line 业 11 3/2 2.0 0.7 Taylor Creek 22 11 7850 3/2 7.2 1.4 0.0 11 0.4 ---7800 6,6 7 Inman 23 11 3/2 1.3 0.0 0.6 1 Ariz 15 8500 14.0 0.6 2.0 Nutrioso 3/2 0.6 0.0 1.0 14 18.9 2.6 Beaver Head 2 11 8000 3/2 4.0 3.4 Coronado Trail 3 11 8000 16.3 1.7 8ء لا 0.8 15 3.5 3/2 11 7300 3/1 7.3 2.5 0.0 0.0 Rose Canvon 29 0.0 3 3 Bear Wallow 30 8100 3/1 16,0 3.7 0.0 1.1 0.4 2.0 1.3 0.7 Average for drainage 13.5 1.7 VERDE RIVER 2/26 0.0 7 1.5 Ariz. 6200 0.0 0.0 2.0 Iron Springs* 7 8 5700 3/1 5.0 0.7 0.0 1.1 1.0 Camp Wood 3/2 11 7100 7.3 1.0 0.9 1.3 6 3.3 Mingus Mountain 14 11 6.5 2,9 5 13 7350 3/2 10.6 2.1 7.6 Morman Lake* 6 12 3/2 1.8 11 7350 7.0 0.9 6-4 3.2 Fort Vallev* 11 1.5 6 Chalender* 9 7100 3/2 10.5 2.0 6.2 3.7 18 4.8 2.2 2 Munds Park ** 6500 3/20.8 0.0 17 11 6.8 2.0 2 6930 3/2 7.3 1.1 Casper Park ** 7500 2.9 9.2 3.7 3 6.0 Mormon Mt. 19 3/2 13.4 16 11 9.0 3.0 2 Antelope Park 7.7 1.4 3.8 4.2 3.1 Average for drainage



COLORADO RIVER SNOW SURVEYS March 1, 1953

			Marc	Snow Co		easure	ments		
Drainage Basin	No.		Date	1		Conte			Past Record
and	and		of	Snow				Yrs.	Av.Water
Snow Course	State	Elev.	Survey	Depth	1953	1952	1951	Rec.	Content
WILLIAMS RIVER			COLORA	In. DO RIVE	In.	In.	In.		In,
Iron Springs Camp Wood* Willow Ranch Average for	7 Ariz. 8 " 15 " drainag	5700 5000	2/26 3/1 3/2	0.0 5.0 4.0 3.0	0.0 0.7 0.5 0.4	0.0	2.0 1.1 0.3 1.1	7 7 5	1.5 1.0 0.1 0.9
LOWER COLORADO RI Bright Angel Grand Canyon Fort Valley Chalender Average for	11 Ariz 10 " 12 " 9 "	7500 7350 7100	2/27 2/28 3/2 3/2	21.2 0.9 7.0 10.5 9.9	5.0 0.4 0.9 2.0 2.1	17.5 4.5 6.4 6.2 8.7	6.9 0.7 1.8 1.5	6 6 6	10.6 2.8 3.2 3.7 5.1
SALT RIVER Forest Dale McNary Nutrioso Coronado Trail Milk Ranch Workman Creek Maverick Fork Baldy Fort Apache Pacheta Average for	5 Ariz. 1 " 3 " 6 " 17 " 23 " 22 " 21 " 20 " drainag	7200 8500 8000 7000 5860 9050 9000 9000 7800	2/27 2/27 3/2 3/2 2/27 2/27 2/27 2/27 2/	0.0 0.5 14.0 16.3 0.3 9.3 16.3 22.8 31.8	0.0 0.2 0.6 1.7 0.2 2.2 4.4 6.3 5.9	0.0 0.0 2.9 4.8 0.0 0.0 14.9 12.2 12.4 6.0 4.6	0.0 2.7 0.6 0.8 1.3 5.0 5.3 1.8 2.2	14 14 15 15 11 2 3 3	1.0 2.3 2.0 3.5 1.0 7.0 6.7 2.6 3.4
LITTLE COLORADO F Forest Dale* McNary Nutrioso* Mormon Lake Fort Valley Mormon Mt. Average fo	5 Ariz. 4 " 11 " 13 " 12 " 19 "	7200 8500 7350 7350 7500	2/27 2/27 3/2 3/2 3/2 3/2	0.0 0.5 14.0 10.6 7.0 13.4 7.6	0.0 0.2 0.6 2.1 0.9 2.9	0.0 0.0 2.9 6.5 6.4 9.2 4.2	0.0 2.7 0.6 2.9 1.8 3.7 2.0	14 14 15 5 6 3	1.0 2.3 2.0 7.8 3.2 6.0 3.7

^{*}On adjacent drainage



LIST AND LOCATION OF SNOW COURSES

Platte, Arkansas, Colorado and Rio Grande Drainages

No	٠.	Name	Seo.	Twp.	Rge.	Elev.	No.		Name	Sec.	Twp.	Rge.	Elev.
		Cheyenne							Upper Colorado	_			
1	SD	Upper Spearfish	21	3N	1E	6500		C	Phantom Valley	7	5N	75W	9300
								C	Berthoud Pass	35	2\$	75W	9700
_	_	North Platte				003		C	M. F. Camp Ground	16	38	77W	9000
7	C	Park View	24	5N	78W	9200		C	Fiddler Guich	1	88	WO8	11000
8	C	Columbine	21	5N	82W	9300		C	Lulu	25	6N	76W	10200
156	C	Northgate	7	1111	79₩	8500		C	N. Inlet Grand Lake	26	4N	75W	9000
7	W	Bottle Creek	24	14N	85W	8200		C	Lake Irene	8	5N	75W	10600
8	W	Webber Spring	27	14N	85W	9000		C	Arrow	34	18	75W	9900
9	W	Old Battle	29	14N	8 5W	9800		C	Lapland	16	2S	76W	9500
37	W	North French Creek	27	16N	80W	10200		C	Fremont Pass	2	88	76W	11400
38	M	North Barrett Creek	30	16N	80W	9400		C	Lynx Pass	27	21	88N	9100
39	W	Ryan Park	34	16N	81W	8400		C	Shrine Pass	15	6S	79W	10500
67	W	Spring Creek	32	15N	85W	9000		C	Grizzly Peak	2	5S	76W	11250
68	W	Albany	18	14N	78W	9400	102	C	Glen-Mar Ranch	31	2 S	774	8850
71	W	Pearl	18	151	82W	8900		C	Nonarch Lake	30	2.7	7471	8500
							112	C	Granby	11	SN	77W	8700
		Laremie					127	C	Grand Lake	36	4N	75W	8 60 0
88	C	Roach	5	101	77W	9800	138	C	Berthoud Summit	10	2 S	75W	11300
111	C	"cIntyre	35	10N	76W	9100	139	С	Frazer View	34	2S	75 _W	10600
3	W	Brooklyn Lake	11	16N	78W	10200	143	C	Gore Pass	2	lN	82W	8900
11	'N	Foxpark	21	13N	78W	9200	146	C	Frisco	18	6S	78₩	3300
35	W	Libby Lodge	29	16N	78W	8700	147	С	Snake River	9	5S	76W	9700
56	W	Hairpin Turn	24	16N	79W	9500	158	C	Summit Ranch	8	4 S	78N	10000
							163	C	Vail Pass	28	58	79W	10000
		Sweetwater					167	С	Kokomo	23	7S	79'N	10600
29	W	Grannier Maacows	19	3JN	100W	9000		C	Fando	10	7S	WC8	9 5 00
47	A	South Pass	13	30N	101W	9000						/ •	
57	W	Larson Creek	12	3UN	105W	9000			Roaring Fork				
							33	С	Ind. Pass Tunnel	30	118	82W	10700
		Laramie Peaks Dist	riot					C	North Lost Trail	20	118	87 N	9200
39	W	La Bonte	11	27N	74N	8450		c	Nast	1	98	83W	8700
	71	Boxelder	31	30N	7.5W	9000		C	Ivanhoe	12	98	82W	10400
	"	Poveldor	01	OOM	1011	3000		C	Ruby	1	128	83W	11500
		South Flatte					122	•	Ruby	*	120	0011	11300
1	С	Cameron Pass	2	6N	76W	10300			Yampa				
2	C	Chambers Lake	6	7N	75W	9000	6	С	Dry Lake	26	7N	84W	8300
3	C		33		75W	8600							
5	C	Big South	2	8N 2S		9400		C C	Elk River	21	5N	82W	9300
14		East Portal		8S	74W				Routt Line	13	5N	83W	9700
	C	Hoosier Pass	13		78W	11400		C	Rabbit Ears	30	5N	83W	9550
15	C	Fairolay	33	98	77W	10000	142	С	Yampa View	21	5N	84W	8500
41	C	Wild Basin	24	3N	74W	10000			- · · ·				
50	C	Deadman Hill	26	10N	75W	10200	w.E	_	White	3.5	00		
60	C	University Camp	26	1N	73W	10300		C	Burro Mountain	15	28	91W	9000
61	C	Loveland Pass	27	48	76W	10600	36	C	Rio Blanco	28	1N	88W	8500
68	C	Hour Giass Lake	18	7N	73W	9500							
83	C	Jefferson Creek	14	78	76W	10100		_	Plateau Creek				
95	C	Hidden Valley	23	5N	7 5W	9550		C	Mesa Lakes	35	118	96W	10000
115	C	Deer Ridge	19	5N	73W	9050	85	C	Trickle Divide	23	118	94W	10000
116	C	Copeiand Lake	21	3N	75W	8600							
117	C	Empire	21	3S	7 5W	9650			Gunnison River				
118	C	Geneva Park	18	6S	74W	9750		C	Crested Butte	22	138	86W	9000
120	C	Antero	1	138	7'/W	9200		С	Park Cone	19	148	85M	9700
128	C	Red Feather	26	1011	74W	9000		C	Alexander Lake	2	12S	25W	10000
133	C	Moffatt	2	2S	74W	9400		C	Snowshoe Mesa	14	138	89W	7500
154	C	Ward	1	111	75W	9500		C	Ironton Park	29	43N	7w	9800
137	C	Berthoud Falls	16	3 S	75W	10500	87		Park Reservoir	34	118	94W	9 500
148		Longs Peak	32	4N	75W	10500	89		Porphyry Creek	19	49N	6E	10800
156		Lost Lake	32	8N	75W	9300	101	C	Kannah Creek	5	128	9 5W	10700
34	C	Pole Mountain	35	15N	72W	8700	104	C	Lake City	13	45N	4W	10300
							132	C	McClure Pass	1	118	89W	9500
		Arkansas River					153	C	Red Mountain	13	42N	RM	11000
19		Tennessee Pass	21	88	80W	10200							
21		Twin Lakes Tunnel	22	118	82W	10500			San Juan				
72	C	Wniskey Creek		37.2N	105W	10300	29	C	Upper San Juan	10	37N	1E	10000
74		La Veta Pass	22	288	70W	9300	30		Silverton	10	41N	7W	9400
78		Four Mile Park	23	118	81W	9700	31		Casoade	12	39N	9W	8850
81		Biue Lakes	30	318	69W	10000	155		La Plata	4	36N	11W	9700
92		Monarch Pass	16	49N	6E	10500	149		Spud Mountain	32	40N	8W	10700
119		Saint Elmo	31	15S	8UW	10600	150		Molas Lake	7	40N	7W	10500
121		Timberline	8	98	81W	11100	151		Howardville	15	41N	7W	9800
165		Cooper Hill	2	8S	8OW	10600	162		Mineral Creek	35	42N	8W	10300
166		East Fork	9	8S	79W	10700	100	•		00	1011	011	10000
				00		10.00							

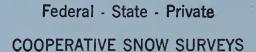
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LIST AND LOCATION OF SNOW COURSES (CONTINUED)

No	•	Name	Sec.	Twp.	Rge.	Elev.	No	٠.	Name	Seo.	Twp	Rge.	Etev.
		Dolores							Arizona (Williams				
23	С	Rioo	11	39N	11W	8700	7	A	Iron Springs	22	14N	3W	6000
24	C	Telluride	6	42N	8W	8600		Ā	Willow Ranch	16	21N	11W	5000
25	C	Lizzard Head	24	41N	10W	10300	10	A	WIIIOW RAHOH	10	SIN	TTM	5000
114	C	Trout Lake	8	41N	9W	9700			Arizona (Lower Co	a bown de	١		
114	U	Hour Lake	· ·	TIM	⊅ ¶	3100	9	A	Chalendar Chalendar	27	22N	3E	7100
		Green					10	Ā	Grand Canyon	21	30N	4E	7500
23	W	Dutoh Joe	33	31 N	104W	8700	11		Bright Angel	34	33N	4E	8400
24	M	Mulligan Park	17	35N	108W	8900	11	Д.	Bilgio Angel	04	OOM		0400
25	W	Kendall R. S.	23	38N	110W	7900			Rio Grande				
26	W	Loomis Park	14	37W	111W	8500	26	С	Wolf Creek	4	37N	2E	10000
27	W	Snyder Basin	15	29N	114W	8040	27	Č	Upper Rio Grande	13	40N	4W	9350
28	W	Piney La Barge	19	29 N	114W	8820	47	Č	Silver Lakes	15	36N	5E	9600
20	11	LineA Tw parge	13	LOM	11.211	0200	49	C	River Springs	25	33N	6E	9800
		Arizona (Gila)					76	C	Summitville	30	37N	4E	11500
11	NTM	Frisoo Divide	21	6S	20W	8000	77	C	Cumbres Pass	17	32N	5E	10000
14		State Line	5	6S	21W	8000	80	c	Santa Maria	8	41N	2W	9700
22		Taylor Creek	20	10S	10W	7850	82	c	Culebra	·		105. 2W	10000
23		Inman	6	118	107	7800	84	C	Fort Garland	13	29N	72W	8200
	AM.	Nutrioso	23	6N	30E	8500	108	Č	Platoro	22	36N	4W	9950
2	Ā	Beaver Head	13	4N	30E	8000	100	Č	West Conejos	25	35N	4E	9450
3	Ā	Coronado Trail	26	5N	30E	8000	110	C	La · Manga	11	33N	5E	10000
29	A	Rose Canyon	15	12S	16E	7300	122	c	Pyramid	26	41N	5W	10300
	Ā	Bear Wallow	6	125	16E	8100	123	C	Spring Creek Pass	20	42N	3W	10900
30	Α.	Dear Mariow	· ·	143	105	0100	124	C	Pool Table Mt.	19	41N	2E	10000
		Arizona (Salt)					125	C	Lake Humphrey	32	40N	1E	9300
4	A	McNary	14	8N	23E	7200	126	c	Coohetopa Pass	12	45N	3E	10000
5	A	Forest Dale	2	9N	21E	6000	154	c	Poroupine	2	41N	3W	10400
6	A	Milk Ranch	28	8N	23E	7000	155	C	Wolf Creek Summit	6	37N	2E	11000
	A	Paoheta	20	OW	202	7800	100	C	HOII CIGGE SUMME	0	3/14	46	11000
	A		18	7N	27E	9000	,	NM	Red River	29	28N	15E	9500
22	A	Fort Apache Baldy	28	7N	27E	9000		NM	Taos Canyon	10	25N	15E	9000
	A.	Mayerick Fork	13	6N	27E	9050		NM	Aspen Grove	12	18N	10E	9100
	A	Workman Creek	33	6N	14E	5860		NM	Hematite Park	8	28N	15E	9500
31	Λ.	WOLKHEII CLOOK	55	014	140	3000	12		Tres Ritos	23	22N	13E	9000
		Arizona (Little Co					15		Payrole	16	28N	7E	9700
12		Fort Valley	22	22N	6E	7350	17		Chama Divide	10		106.7W	7750
	A A	Mormon Lake	13	18N	8E	7350	18		Chamita			106.7W	8500
	A	Mormon Lake	13	18N	SE	7500	19		Cordova	22	22N	13E	10100
13	Δ.	MOPHON MOUNTAIN	7.7	TOM	OE	7300	20		Panohuela	27	19N	12E	8300
		Aud (Wanda)					21		Big Tesuque	17	18N	116	10000
0		Arizona (Verde)	- 3	16N	6W	5 7 00	24		Elk Cabin	8	18N	116	8250
	A	Camp Wood	- 3 29	19N	SE	7300	26		Rio En Medio	8	18N	11E	10400
	A A	Antelope Park Casner Park	29 19	19N	SE SE	6930	28		Quemazon	34	20N	5E	9300
_	A	_	19 7	18N	7E	6500	29		Bateman	54 5	26N	6E	9300
10	A	Munds Park		TOM	, E	6500	31		Fenton Hill	18	19N	3W	8900
							31	TA NAT	Loucon UIII	10	TaN	OM	0300

SD - South Dakota; C - Colorado; W - Wyoming; A - Arizona; NM - New Mexico





Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"